

STEP-BY-STEP

2nd Ed.

A GUIDE TO MOBILITY TECHNIQUES

STUDY GUIDE

ENVIRONMENT-SPECIFIC TECHNIQUES

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TABLE OF CONTENTS

Acknowledgements	2
Introduction	4
Elevators, Escalators & Revolving Doors	5
Elevators	6
Escalators—With a Guide (When the Traveler Is Not Carrying a Cane)	11
Escalators—With a Guide (When the Traveler Is Carrying a Cane)	18
Escalators—Without a Guide (When the Traveler Is Carrying a Cane)	24
Revolving Doors	38
Special Environments	44
Areas Without Sidewalks	45
Gas Stations.....	51
Railroad Crossings	56
References	60

INTRODUCTION

Many mobility techniques are designed to facilitate travel in very specific situations and environments. Some environments, however, are quite complex and, therefore, require the integrated use of techniques from several of the Step-By-Step modules, including GUIDING, NON-CANE, LONG CANE, and STREET CROSSING.

Elevators, Escalators, & Revolving Doors

Using escalators and revolving doors requires the integrated use of several mobility techniques presented in the GUIDING, NON-CANE, and LONG CANE modules. At times, skills from these modules are modified slightly to accommodate unique aspects of travel in elevators, on escalators, or through revolving doors.

Special Environments

There are a number of environments that require the traveler to incorporate techniques from other modules or that require the traveler to use specific modifications of these techniques in order to negotiate the target environment safely and efficiently. For example, traveling in an area in which there are no sidewalks requires the use of direction-taking, specific shorelining techniques, and a modification of street crossing techniques.

ELEVATORS, ESCALATORS & REVOLVING DOORS

ELEVATORS

Purpose

To locate, call, enter, and exit an elevator in a public place

Prerequisite Techniques

Congested Area
Search Patterns

Teaching Environments

Begin in a quiet area (if possible) using an elevator that either no, or few, other passengers are using at the time.

Introduce a variety of elevators, including those with the following features and elevator types:

- Button panels of varying configurations
- With and without emergency telephones
- Passenger elevators
- Freight elevators

Lead up to using elevators that have increased passenger congestion.

Practice this technique in a variety of environments (e.g., public buildings, shopping centers, bus, and train stations).

Skills

Locating and Calling the Elevator

1. The traveler locates the elevator by in these ways:
 - Listen for the sounds of the door opening or closing, the hum of the motor, passengers entering and exiting, or the bell or other auditory noise indicating the arrival of the elevator.
 - Trail the wall to find the indentation of the elevator door.
 - One way to verify that an indentation is actually that of an elevator door is to feel for the braille/raised floor number. These numbers are located about 5 feet above the ground on the side jambs of the elevator doorway in many buildings, in keeping with the ADA Accessibility Guidelines (ADAAG) (United States Access Board, 2002).
2. The traveler locates the call button situated to the side of the door or, perhaps, between elevator doors in areas where there is more than one elevator. The call

button is usually located 42 inches above the ground, in keeping with ADAAG (United States Access Board, 2002).

- On the top and bottom floors of a building, there will be only one button.
 - Other floors will have two buttons—the top one to call an elevator going up, the bottom one to call an elevator going down.
 - A keyhole button, operable only by fire and emergency officials, may be present.
3. The traveler presses the desired button and steps to the side of the door to leave room for people to exit the elevator when it arrives.
- Some buttons will depress when pushed; others react to the heat or pressure from a person's hand and will simply light up.
 - The arrival of the elevator is indicated by the sound of the doors opening. In some public buildings, an electronic voice message or a chime will also sound to indicate the arrival of the elevator—one chime for an elevator going up and two chimes for an elevator going down.
 - If the traveler is uncertain whether the elevator is going up or down, he can ask nearby pedestrians, wait for another elevator, or choose to take a chance and board the elevator. If, in the latter situation, the elevator is traveling in the wrong direction, the traveler can simply wait for it to finish its ascent or descent and then press the button for his desired floor.

Note: If the traveler presses a floor button in an elevator that is traveling in the wrong direction, he will need to press the button again once the elevator begins to travel in the correct direction or the elevator may not stop at his desired floor.

Boarding the Elevator

1. When boarding the elevator, the traveler waits for people to exit the elevator before attempting to enter it. He then uses the CONGESTED AREA technique (Touch Technique—Constant Contact) to locate the floor of the elevator, remaining aware of the gap immediately in front of the elevator door.
 - Locating the floor before entering the elevator is critical to ensure that the traveler does not inadvertently step into an empty elevator shaft. Once the floor has been located, many travelers will then pull the cane tip back over the threshold momentarily to detect any slight elevation changes that might pose a tripping hazard.
2. If the elevator door starts to close while he is boarding the elevator, the traveler can use the UPPER HAND & FOREARM (Modified) technique with his non-cane hand to protect his body from being bumped by the closing door. He may also choose to place one arm against the door edge before entering to prevent the door from starting to close as he passes through the doorway.
 - Elevators in most buildings have rubber along the door edges to prevent injury to a person who is contacted by a closing door; most elevators also have doors that

will automatically retract if they contact something while closing. Elevators in very old buildings may not have these safety features.

3. Once inside the elevator, the traveler turns and faces the door. He locates the control panel, usually located on the front wall either to one side or to both sides of the door.
 - With some exceptions, elevator control panels are relatively standardized, in keeping with the current Architectural Barriers Act—Accessibility Standards (United States Access Board, 2002). In this case floor buttons are in ascending order, and if there is more than one column the columns read from left-to-right. These panels have buttons for odd-numbered floors in one column and buttons for even-numbered floors in another column. The numbered floor buttons on other panels, however, are arranged numerically from top to bottom in one column and continued in a second column. On some panels there may be even more than two columns. Control panels will have braille and raised letters or raised markings indicating the function of each button.
 - All elevator panels include the following additional features:
 - Button for opening the door (or holding it open to allow others to enter or exit)
 - Button for closing the door
 - Alarm button to press in case of emergency (e.g., the elevator becomes stalled between floors)
 - This button should be at the bottom of the panel.
 - Emergency-stop button that stops the elevator in case of emergency or if it is necessary to keep the elevator door open for an extended period of time (e.g., to load equipment)
 - This button should be at the bottom of the panel.
 - Button or keyhole activated only by emergency personnel
 - This button allows them to override all other buttons and take complete control of the elevator.
 - Raised symbol (usually a star) indicating the emergency exit floor.
 - This is not always the first floor and may be indicated in braille by the word “Main.”
 - In addition to a control panel, some elevators have a telephone behind a small door near the main control panel. This telephone connects directly to emergency personnel and is for use only in case of an emergency.
4. Using the SEARCH PATTERNS technique, the traveler can locate and press the button for his desired floor. If there are other people riding the elevator, he may choose to ask another person to press the button for his floor. If the buttons are not well labeled and there are no other passengers, the traveler can push all of the floor buttons and then count the number of floors at which the elevator stops.

5. The traveler positions himself as close as possible to either the back or a side wall in order to make room for other passengers. He stands facing the front of the elevator as it travels.

Exiting the Elevator

1. The traveler can identify arrival at his desired floor in several ways.
 - In some modern buildings, elevators will have an electronic voice message indicating the number of the floor at which the elevator has arrived.
 - In many modern buildings, a tone will sound one time for each floor passed. In this way, the traveler is able to count the number of floors to determine when he has arrived at his desired floor.
 - In addition, the traveler can verify the elevator has arrived at his floor in these ways:
 - Hold the elevator door open by pressing on the rubber flap along the edge of the door, and then feeling for the braille or raised floor numbers that are located 5 feet above the floor on the doorway jambs outside of the door (see Figure 1.01).
 - Push the button of the current floor while the door is closing.
 - This will immediately reopen the door of some elevators.
 - Ask a person in the elevator or hallway to verify the floor number.



Figure 1.01

Raised and braille floor numbers often can be found on the side jambs of the elevator doorway. In this photo an arrow points from the actual button to an inset, enlarged photo that shows floor level 3, raised and in braille.

2. Upon verifying that the elevator has arrived at his desired floor, the traveler exits the elevator quickly using the CONGESTED AREA technique (TOUCH Technique with Constant Contact).

Common Errors and Corrections

Error:

The traveler fails to locate the elevator floor before entering the elevator.

Correction:

Locating the floor before entering the elevator prevents the traveler from inadvertently stepping into an empty elevator shaft, should the door open when the elevator has not actually arrived at that floor.

Error:

The traveler fails to use the CONGESTED AREA technique when entering the elevator.

Correction:

Using the CONGESTED AREA technique helps to keep the cane tip from interfering with other passengers.

Notes for Teachers

If the elevator is one that the traveler will use in the future, he may wish to take the time (when the elevator is not busy) to familiarize himself with the control panel by using systematic search patterns.

Destination-oriented elevators can often be found in very tall buildings. These elevators provide faster service by assigning some elevators to stop at selected floors (e.g., 1–20) and others to stop at different floors (e.g., 21–40). All elevators stop at the ground or main floor. The traveler uses a keypad in the lobby to select a floor and then listens for the audible indicator that the correct elevator is arriving at the ground floor.

Related Techniques

None

ESCALATORS—WITH A GUIDE (WHEN THE TRAVELER IS NOT CARRYING A CANE)

Purpose

To negotiate an escalator when traveling with a guide

Prerequisite Techniques

Basic Guiding (When the Traveler Is Not Carrying a Cane)

Negotiating Narrow Spaces (When the Traveler Is Not Carrying a Cane)¹

Negotiating Stairs (When the Traveler Is Not Carrying a Cane)

Transferring Sides (When the Traveler Is Not Carrying a Cane)²

Teaching Environments

Begin in a quiet area (if possible) on an escalator that has either no, or few, other people using it at the time. The escalator should ideally have a distinctive metal plate, both at its entrance and its exit.

Note: Some travelers find learning to negotiate ascending escalators to be less intimidating than learning to negotiate descending escalators. For this reason, it is generally recommended to begin instruction on ascending escalators and then to proceed to descending escalators. In many cases it will be necessary to teach both ascending and descending concurrently in order to be able to return to the bottom of the ascending escalator for additional practice and instruction. If a ramp or elevator is available to return to the lower level, that may be an alternative—especially if the instructor feels that the traveler would have difficulty learning the methods to negotiate both ascending and descending escalators concurrently.

Introduce a variety of escalators, including those that vary in length and width.

Lead up to negotiating escalators that have increased passenger congestion.

Practice this technique in a variety of environments (e.g., public buildings, schools, theaters, shopping centers, bus, and train stations).

¹ Knowing the NEGOTIATING NARROW SPACES technique will be helpful if it is ever necessary to negotiate an escalator that is only wide enough for one person.

² The traveler can use the TRANSFERRING SIDES technique to move to the other side of the guide in order to be next to the handrail of the escalator.

Skills

Ascending Escalator

The standard method of negotiating an ascending escalator with a guide (when the traveler is not carrying a cane)

1. The guide and traveler approach the escalator perpendicularly, stopping at the far edge of the metal plate where it meets the moving steps.
 - Having the traveler stand on the guide's right side positions her to grasp the handrail easily when she and the guide are standing on the right-hand side of the escalator. This position also leaves room for other people to pass by them on the left-hand side.
2. The guide gives an arm-pull to bring the traveler up beside him.
3. The traveler reaches for the hand railing, allowing it to slide through her hand.
4. The guide and the traveler board the escalator, with the traveler now holding firmly onto the handrail; the traveler stands one step behind the guide, as in the NEGOTIATING STAIRS (When Walking With a Guide) technique.
 - If the traveler steps on a seam when boarding, she can step up to the next step or back down to the previous step to position herself one step behind the guide.
5. The traveler can place one foot up on the step ahead and/or reach her hand forward on the handrail to feel when the steps and railing level off, indicating that they are approaching the end of the escalator (see Figure 2.01).
 - Some travelers find that placing one foot on the stair ahead also widens their base of support and assists in balance. This is an individual choice of the traveler.



Figure 2.01

The traveler places one foot up on the step ahead and/or reaches her hand forward on the handrail to feel when the steps and railing level off.

6. When the traveler feels the steps level off and feels herself and the guide begin to stand at the same level, she raises the toes of her leading foot to avoid stubbing them on the edge of the metal plate at the exit of the escalator (see Figure 2.02).



Figure 2.02

The traveler raises the toes of her forward foot to avoid stubbing them on the edge of the metal plate at the end of the escalator.

7. The guide and traveler exit the escalator using the BASIC GUIDING (When the Traveler Is Not Carrying a Cane) technique.

Descending Escalator

The standard method of negotiating a descending escalator with a guide (when the traveler is not carrying a cane)

1. The guide and traveler approach the escalator perpendicularly, stopping at the edge of the metal plate where it meets the moving steps.
 - Having the traveler stand on the guide's right side positions her to grasp the handrail easily when she and the guide are standing on the right-hand side of the escalator. This position also leaves room for other people to pass by them on the left-hand side.
2. The guide gives an arm-pull to bring the traveler up beside him.
3. The traveler reaches for the handrail, allowing it to slide through her hand.
4. The guide and the traveler board the escalator, with the traveler now holding firmly onto the handrail; the traveler stands one step behind the guide as in the NEGOTIATING STAIRS (When Walking With a Guide) technique.
 - If the traveler steps on a seam when boarding, she can step down to the next step or back up to the previous step to position herself one step behind the guide.
5. To feel when the steps level off (indicating that they are approaching the end of the escalator), the traveler can place one foot slightly over the edge of the step with her toes pointed down (see Figure 2.03).



Figure 2.03

The traveler places one foot slightly over the edge of the step with her toes pointed down to feel when the steps level off.

6. When the traveler feels the steps level off and feels herself and the guide begin to stand at the same level, she raises the toes of her forward foot to avoid stubbing them on the edge of the metal plate at the exit of the escalator (see Figure 2.04).



Figure 2.04

The traveler raises the toes of her forward foot to avoid stubbing them on the edge of the metal plate at the end of the escalator.

7. The guide and traveler exit the escalator using the BASIC GUIDING (When the Traveler Is Not Carrying a Cane) technique.

General Modifications

If the escalator is not wide enough for the guide and traveler to stand beside one another, they can use the NEGOTIATING NARROW SPACES technique with the traveler standing one step behind the guide and adjusting her grasp on the guide's arm upward or downward, as necessary. While on the escalator, the traveler will want to hold the guide's arm with her "same-side" hand to free her other hand to hold the railing (see Figure 2.05).



Figure 2.05

The guide and traveler use the NEGOTIATING NARROW SPACES technique on an escalator that is not wide enough for them to stand beside one another.

Common Errors and Corrections

Error:

The guide fails to stop and ensure that the traveler's feet are at the edge of the metal plate before stepping onto the escalator.

Correction:

Stopping and ensuring that the traveler's feet are at the edge of the metal plate before stepping onto the escalator enables the traveler to know exactly where the first step is located and to avoid stumbling when she boards the moving escalator.

Error:

The traveler fails to raise the toes of her leading foot when she feels the steps level off.

Correction:

Raising the toes of her leading foot prevents the traveler from stubbing her toes on the edge of the metal plate at the end of the escalator.

Error:

The traveler stands a half step behind the guide (standard BASIC GUIDING position) when preparing to step onto the escalator.

Correction:

The traveler should stand next to the guide when boarding the escalator. This better enables her to know where the first step is located, to most easily reach the handrail, and to most reliably avoid stumbling when she boards the moving escalator.

Notes for Teachers

Facts About Escalators:

Escalators are usually located in the center of buildings.

Escalators in malls are sometimes less congested than those in stores.

Escalators moving to and from the main floor of a building are often wider than escalators located between higher floors.

A common rule is to stand on the right-hand side of an escalator, leaving room on the left for people to pass as they walk up or down the escalator in an effort to travel more quickly.

Using ascending escalators often produces less anxiety for travelers. For this reason, it is often helpful to teach travelers to negotiate ascending escalators before teaching them how to negotiate descending escalators.

Travelers who are apprehensive or fearful of escalator travel often voice concern about stepping on a seam rather than on a full step when boarding. It is important to emphasize that fear is unnecessary and that the traveler has the ability to adjust easily up or down if she steps on a seam between the steps.

While many people use an escalator when it is not moving, this practice is not recommended. The escalator can suddenly start up at any time with a sudden jerk that can make it difficult to maintain one's balance. This is equally true for people who are sighted or who are blind.

The procedure for negotiating moving walkways is the same as for escalators except the guide may need to indicate verbally to the traveler when they have arrived at the end of the walkway and when to step onto the plate. Moving walkways are usually found in airports or large public areas, such as convention centers.

Related Techniques

Escalators – With a Guide (When the Traveler Is Carrying a Cane)

ESCALATORS—WITH A GUIDE (WHEN THE TRAVELER IS CARRYING A CANE)

Purpose

To negotiate an escalator when using a cane while traveling with a guide

Prerequisite Techniques

Basic Guiding (When the Traveler Is Carrying a Cane)

Escalators—With a Guide (When the Traveler Is Not Carrying a Cane)

Negotiating Narrow Spaces—(When the Traveler Is Carrying a Cane)¹

Negotiating Stairs—With a Guide (When the Traveler Is Carrying a Cane)

Transferring Sides (When the Traveler Is Carrying a Cane)²

Teaching Environments

Begin in a quiet area (if possible) on an escalator that no, or few, other people are using at the time. The escalator should ideally have a distinctive plate at both its entrance and its exit.

Note: Some travelers find learning to negotiate ascending escalators to be less intimidating than learning to negotiate descending escalators. For this reason, it is generally recommended to begin instruction on ascending escalators and then proceed to descending escalators. In many cases it will be necessary to teach both ascending and descending concurrently to be able to return to the bottom of the ascending escalator for additional practice and instruction. If a ramp or elevator is available to return to the lower level it may be an alternative, especially if the instructor feels the traveler would have difficulty learning the methods to negotiate both ascending and descending escalators concurrently.

Introduce a variety of escalators, including those that vary in length and width.

Lead up to negotiating escalators that have increased passenger congestion.

Practice this technique in a variety of environments (e.g., public buildings, schools, theaters, shopping centers, bus and train stations).

¹ Knowing the NEGOTIATING NARROW SPACES (When the Traveler Is Carrying a Cane) technique will be helpful if it is ever necessary to negotiate a stairway or an escalator that is only wide enough for one person.

² The traveler can use the TRANSFERRING SIDES (When the Traveler Is Carrying a Cane) technique to move to the other side of the guide in order to be next to the handrail of the stairway or escalator.

Skills

Ascending Escalator

The standard method of negotiating an ascending escalator with a guide (when the traveler is carrying a cane)

1. The guide and traveler approach the escalator perpendicularly; the guide stops at the edge of the metal plate where it meets the moving steps.
 - Having the traveler stand on the guide's right side positions her to grasp the handrail easily when she and the guide are standing on the right-hand side of the escalator. This position also leaves room for other people to pass them on the left-hand side.
2. The guide uses an arm-pull to bring the traveler up beside him. The traveler anchors her cane against the edge of the metal plate adjacent to the moving steps.
3. The traveler holds her cane in the NEGOTIATING STAIRS (When the Traveler Is Carrying a Cane) position.
 - If the traveler wishes to hold the handrail, she can place her cane in the hand that is grasping the guide's arm and hold the cane vertically until exiting the escalator (see Figure 3.01).



Figure 3.01

If the traveler wishes to hold the handrail, she can place her cane in the hand that is grasping the guide's arm.

4. The guide and the traveler board the escalator; the traveler stands one step behind the guide.
 - If the traveler steps on a seam when boarding, she can step up to the next step or back down to the previous step to position herself one step behind the guide.

5. Unless the traveler is holding the handrail, she continues to hold her cane in the NEGOTIATING STAIRS (When the Traveler Is Carrying a Cane) position; the cane tip rests on the tread of the stair located 1–2 steps ahead.
 - The traveler will feel the cane move downward when the steps level off at the end of the escalator. To further feel when the steps level off, she can also place one foot up on the step ahead. She will also feel the guide's arm lower as the steps level off.
 - Some travelers also find that placing one foot on the stair ahead further enables them to feel when the steps level off. Doing so also widens their base of support and assists in balance. This is an individual choice of the traveler.
6. When the traveler feels the steps level off or feels herself and the guide begin to stand at the same level, she raises the toes of her forward foot. Raising her toes prevents the traveler from accidentally stubbing them on the edge of the metal plate at the exit of the escalator.
7. The guide and traveler exit the escalator and resume the BASIC GUIDING (When the Traveler Is Carrying a Cane) technique.

Descending Escalator

The standard method of negotiating a descending escalator with a guide (when the traveler is carrying a cane)

1. The guide and traveler approach the escalator perpendicularly; the guide stops at the edge of the metal plate where it meets the moving steps.
 - Having the traveler stand on the guide's right side positions her to grasp the handrail easily when she and the guide are standing on the right-hand side of the escalator. This position also leaves room for other people to pass them on the left-hand side.
2. The guide uses an arm-pull to bring the traveler up beside him. The traveler anchors her cane against the edge of the metal plate that is adjacent to the moving steps.
3. The traveler holds her cane in the NEGOTIATING STAIRS (When the Traveler Is Carrying a Cane) position
 - If the traveler wishes to hold the handrail, she can place her cane in the hand that is grasping the guide's arm and hold the cane vertically until exiting the escalator (see Figure 3.02).
4. The guide and the traveler board the escalator; the traveler stands one step behind the guide.
 - If the traveler steps on a seam when boarding, she can step down to the next step or back up to the previous step to position herself one step behind the guide.
5. Unless the traveler is holding the handrail, she continues to hold her cane in the NEGOTIATING STAIRS (When the Traveler Is Carrying a Cane) position; The cane

tip rests on the tread (or the cane shaft rests on the edge) of the step located 1–2 steps ahead.

- The traveler will feel the cane move upward when the steps level off at the end of the escalator. To further feel when the steps level off, she can also place the toes of one foot over the edge of the step (with her toes pointed down). She will also feel the guide's arm rise as the steps level off.



Figure 3.02

If the traveler wishes to hold the handrail, she can place her cane in the hand that is grasping the guide's arm.

6. When the traveler either feels the steps level off or feels herself and the guide begin to stand at the same level, she raises the toes of her forward foot. Raising her toes prevents the traveler from accidentally stubbing them on the edge of the metal plate at the exit of the escalator.
7. The guide and traveler exit the escalator and then resume the BASIC GUIDING (When the Traveler Is Carrying a Cane) technique.

General Modifications

If the escalator is not wide enough for the guide and traveler to stand beside one another, they can use the NEGOTIATING NARROW SPACES technique, with the traveler standing one step behind the guide and adjusting her grasp on the guide's arm upward or downward.

Common Errors and Corrections

Most of the errors commonly seen when travelers are learning this technique are the same as those often seen when learning the ESCALATORS—With a Guide and the ESCALATORS techniques. Selected errors are listed here for the reader's convenience.

Error:

The guide fails to stop and make sure that the traveler's feet are at the edge of the metal plate before stepping onto the escalator.

Correction:

Stopping and ensuring that the traveler's feet are at the edge of the metal plate before stepping onto the escalator enables the traveler to know exactly where the first step is located and to avoid stumbling when she boards the moving escalator.

Error:

The traveler fails to raise the toes of her leading foot when she feels the steps level off.

Correction:

Raising the toes of her leading foot prevents the traveler from stubbing her toes on the edge of the metal plate at the end of the escalator.

Error:

The traveler holds the cane with the tip raised rather than resting the tip on the steps below while negotiating a descending escalator.

Correction:

Holding her cane with the tip or shaft resting on a step (or the edge of a step) below ensures that the cane will not contact a person below and assists the traveler in feeling when the steps level off and in detecting the metal plate.

Error:

The traveler holds the cane with the tip in front of the guide's body rather than maintaining it in front of her own body while negotiating the escalator.

Correction:

Maintaining the cane with the tip in front of her own body ensures it will not trip the guide when he exits the escalator.

Error:

The traveler stands on the same step of the escalator as the guide.

Correction:

Standing one step behind the guide provides the traveler with the needed time to react to the leveling of the steps and the guide's forward movement as they begin to exit the escalator. Without sufficient time to react, some travelers might stumble on the metal plate as they exit.

Notes for Teachers

Facts About Escalators:

Escalators are usually located in the center of buildings.

Escalators in malls are sometimes less congested than those in stores.

Escalators moving to and from the main floor of a building are often wider than escalators located between higher floors.

A common rule is to stand on the right-hand side of an escalator, leaving room on the left for people to pass as they walk up or down the escalator in an effort to travel more quickly.

Travelers who are apprehensive or fearful of escalator travel often voice concern about stepping on a seam rather than on a full step when boarding. It is important to emphasize that fear is unnecessary and that the traveler has the ability to adjust up or down if she steps on a seam between the steps.

While many people use an escalator when it is not moving, this practice is not recommended. The escalator can suddenly start up at any time with a sudden jerk that can make it difficult to maintain one's balance. This is equally true for people who are sighted or who are blind.

The procedure for negotiating moving walkways is the same as for escalators except that the guide may need to indicate verbally to the traveler when they have arrived at the end of the walkway and when to step onto the plate. Moving walkways are usually found in airports or large public areas, such as convention centers.

Related Techniques

Escalators¹

¹ Prior experience with the ESCALATORS—With a Guide (When the Traveler is Carrying a Cane) technique may lessen the initial anxiety some travelers feel when negotiating escalators with a cane and without a guide.

ESCALATORS—WITHOUT A GUIDE (WHEN THE TRAVELER IS CARRYING A CANE)

Purpose

To negotiate an escalator when using a cane

Prerequisite Techniques

Escalators—With a Guide (When the Traveler Is Carrying a Cane)¹

Congested Area

Negotiating Stairs²

Touch (Constant Contact)³

Touch & Slide³

Teaching Environments

Begin in a quiet area (if possible) on an escalator that either no, or few, other people are using at the time. The escalator should ideally have a distinctive metal plate at both its entrance and exit.

Note: Some travelers find learning to negotiate ascending escalators to be less intimidating than learning to negotiate descending escalators. For this reason, it is generally recommended to begin instruction on ascending escalators and then proceed to descending escalators. In many cases it will be necessary to teach both ascending and descending escalators concurrently in order to be able to return to the bottom of the ascending escalator for additional practice and instruction. If a ramp or elevator is available to return to the lower level it may be an alternative, especially if the instructor feels that the traveler would have difficulty learning the methods to negotiate both ascending and descending escalators concurrently.

Progress to negotiating unfamiliar ascending and descending escalators with little or no passenger traffic.

Introduce a variety of escalators, including those that

- Vary in length and

¹ Prior experience negotiating stairs using the ESCALATORS—With a Guide (When the Traveler Is Carrying a Cane) technique may lessen the initial anxiety some travelers feel when negotiating escalators without a guide.

² Knowing the NEGOTIATING STAIRS technique may assist in learning how to position the cane on the steps when riding up or down escalators and how to “clear” with the cane when exiting.

³ Either the TOUCH (Constant Contact) or the TOUCH & SLIDE technique can be used to locate the metal plate in front of the escalator.

- Are configured in a variety of ways (i.e., entrances for each successive flight that are located side by side, or entrances for each successive flight that are located underneath or above where the traveler boarded the previous escalator).

Lead up to negotiating escalators that have increased passenger congestion.

Practice this technique in a variety of environments (e.g., public buildings, shopping centers, bus and train stations).

Skills

Ascending Escalator

The standard method of negotiating an ascending escalator.

1. Using the TOUCH technique (Constant Contact) or the TOUCH & SLIDE technique, the traveler locates the metal plate in front of the escalator.
2. Unless the traveler knows for certain she has found the plate at the entrance of the escalator, she should move to the right-hand side of the plate out of the path of traffic to find the handrail. The traveler then identifies whether she is at the entrance or exit of the escalator by listening to pedestrian sounds and/or finding the handrail and noting the direction in which it is moving.
 - Approaching the escalator from the side or moving to the side if approaching from the front allows the traveler to feel the handrail and to identify the direction of the escalator without interfering with the flow of pedestrian traffic.
 - If the handrail is moving away from the traveler, it is the entrance to the escalator; if the handrail is moving toward the traveler, it is the exit of the escalator.
 - If the sound of the moving stairs is at head height, then the escalator is either going to or coming from the floor above; if the sound is below the traveler, then the escalator is either going to or coming from the floor below.
3. Upon verifying that she has located the entrance (and not the exit) to the escalator, the traveler moves forward onto the right-hand side of the metal plate. Using the TOUCH technique (Constant Contact) or the TOUCH & SLIDE technique, she locates the edge of the plate where it meets the moving steps.
 - Standing on the right-hand side of the escalator leaves room for other people to pass by the traveler on the left.
4. The traveler anchors her cane against the edge of the metal plate that borders the moving steps and then walks up to her cane (see Figure 4.01). She positions her feet perpendicularly to the edge of the metal plate.



Figure 4.01

The traveler anchors her cane against the edge of the metal plate that borders the moving steps.

5. The traveler extends her cane forward and rests the tip on the moving stairs to identify whether she has arrived at an ascending or descending escalator.
 - If the cane tip lowers and then suddenly lifts upward (in a repeating cycle), she is at a descending escalator.
 - If the cane tip moves upward and then drops down (in a repeating cycle), she is at an ascending escalator.
6. After verifying she is at an ascending escalator, the traveler places the cane in her left hand and reaches for the railing on her right side, letting the railing slide through her grasp.
 - If she grasps the railing too tightly, she may be pulled forward before she is ready to board the escalator.
7. Grasping the handrail firmly, the traveler steps onto the escalator.
 - If the traveler steps on a seam when boarding, she either can step up to the next step or back down to the previous step.
 - Standing on the right-hand side of the escalator leaves room for other people to pass on the left-hand side.
8. The traveler holds her cane in the NEGOTIATING STAIRS (Ascending) position with the cane tip resting on the tread of the stair located 1–2 steps ahead.
9. The traveler identifies that she is approaching the exit of the escalator using auditory information (e.g., the flow of people exiting the escalator in front of her, auditory information from the floor area at the end of the escalator) or proprioceptive information (e.g., when the steps and handrail level off).
 - The traveler will feel the cane move downward when the steps level off at the end of the escalator. To feel more precisely when the steps level off, the traveler

can also place one foot up on the step ahead and/or reach her hand forward on the handrail (see Figure 4.02).

- Some travelers also find that placing one foot on the stair ahead further enables them to feel when the steps level off. Doing so also widens their base of support and assists in balance. This is an individual choice of the traveler.

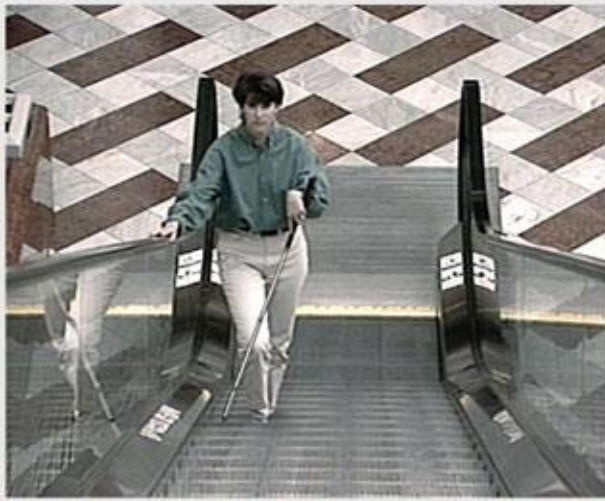


Figure 4.02

To feel when the steps level off, the traveler can place one foot up on the step ahead and reach her hand forward on the railing.

10. When the traveler feels the steps level off, she raises the toes of her forward foot. Raising her toes prevents the traveler from accidentally stubbing them on the edge of the metal plate at the exit of the escalator (see Figure 4.03).



Figure 4.03

The traveler raises the toes of her leading foot to avoid stubbing them on the edge of the plate at the end of the escalator.

11. When her cane tip contacts the metal plate, the traveler clears with her cane and steps off the escalator. She then moves away quickly, using the CONGESTED AREA technique.
 - It is important for the traveler to exit the escalator and move away from it quickly so she does not impede the flow of people exiting behind her. If the traveler needs to adjust her grasp on the cane or switch it to her other hand, she should only do so after she has moved out of the way of other exiting passengers.

Descending Escalator

The standard method of negotiating a descending escalator

1. Using the TOUCH technique (Constant Contact) or the TOUCH & SLIDE technique, the traveler locates the metal plate in front of the escalator.
2. Unless the traveler knows for certain she has found the plate at the entrance of the escalator, she should move to the right-hand side of the plate, out of the path of traffic, to find the handrail. The traveler then identifies whether she is at the entrance or exit of the escalator by listening to pedestrian sounds and/or finding the handrail and noting the direction in which it is moving.
 - Approaching the escalator from the side, or moving to the side if approaching from the front, allows the traveler to feel the handrail and to identify the direction of the escalator without interfering with the flow of pedestrian traffic.
 - If the handrail is moving away from the traveler, it is the entrance to the escalator; if the handrail is moving toward the traveler, it is the exit of the escalator.
 - If the sound of the moving stairs is at head height, then the escalator is either going to or coming from the floor above; if the sound is below the traveler, then the escalator is either going to or coming from the floor below.
3. Upon verifying that she has located the entrance (and not the exit) to the escalator, the traveler moves forward onto the right-hand side of the metal plate. Using the TOUCH technique (Constant Contact) or the TOUCH & SLIDE technique, she locates the edge of the plate where it meets the moving steps.
 - Standing on the right-hand side of the escalator leaves room for other people to pass by the traveler on the left.
4. The traveler anchors her cane against the edge of the metal plate that borders the moving steps and then walks up to her cane. She positions her feet perpendicularly to the edge of the metal plate.
5. The traveler extends her cane forward and rests the tip it on the moving stairs to identify whether she has arrived at an ascending or descending escalator.
 - If the cane tip lowers and then suddenly lifts upward (in a repeating cycle), she is at a descending escalator.

- If the cane tip moves upward and then drops down (in a repeating cycle), she is at an ascending escalator.
6. After verifying she is at a descending escalator, the traveler places the cane in her left hand and reaches for the railing on her right side, letting the railing slide through her grasp.
 - If she grasps the railing too tightly, she may be pulled forward before she is ready to board the escalator.
 7. Grasping the handrail firmly, the traveler steps onto the escalator.
 - If the traveler steps on a seam between steps, she can step down to the next step or back up to the previous step.
 - Standing on the right-hand side of the escalator leaves room for other people to pass her on the left-hand side.
 8. The traveler holds her cane in the NEGOTIATING STAIRS (Descending) position with the cane tip resting on the tread (or shaft resting on the edge) of the step located 1–2 steps ahead.
 - The traveler will feel the cane move upward when the steps level off at the end of the escalator. To feel more precisely when the steps level off, the traveler can also place the toes of one foot over the edge of the step with her toes pointed down (see Figure 4.04).



Figure 4.04

The traveler can place the toes of one foot over the edge of the step to feel when the steps level off.

9. The traveler identifies that she is approaching the exit of the escalator using auditory information (e.g., the flow of people exiting the escalator in front of her, auditory information from the floor area at the end of the escalator) or proprioceptive information (e.g., when the steps level off).

10. When the traveler feels the steps level off, she raises the toes of her forward foot. Raising her toes prevents the traveler from accidentally stubbing them on the edge of the metal plate at the exit of the escalator (see Figure 4.05).



Figure 4.05

The traveler raises the toes of her leading foot to avoid stubbing them on the edge of the plate at the end of the escalator.

11. When her cane tip contacts the metal plate, the traveler clears with her cane and steps off the escalator. She then moves away quickly using the TOUCH technique.
- It is important for the traveler to exit the escalator and move away from it quickly so she does not impede the flow of people exiting behind her. If the traveler needs to adjust her grasp on the cane or switch it to her other hand, she should do so only after she has moved out of the way of other exiting passengers.

General Modifications

Some travelers who are fearful or who have balance problems may wish to time their entry onto the escalator with the passage of the steps and seams.

- Such travelers identify the emerging seams by placing their cane tip over the edge of the metal plate to feel the emerging seams. They then time their entry to step on immediately following an emerging seam. Some travelers, however, find it difficult to feel the emerging seams in this manner.
- On some escalators, a small flash of light is visible as the seam passes. Some travelers with low vision can use this visual information to time their entry.

Unless absolutely necessary, it is often better not to time one's entry with the passage of the seams because the extra time it takes to do so may cause the traveler to inadvertently block the flow of other people waiting to board.

Common Errors and Corrections

Error:

The traveler stops when her cane contacts the metal plate and listens to pedestrian traffic to determine the direction (entrance or exit) of the escalator.

Correction:

Feeling the handrail is the most efficient way to verify the direction of the escalator without obstructing the movement of other pedestrians. The sounds of pedestrian traffic can be used to provide further confirmation.

Error:

The traveler fails to place her cane tip on the step above when negotiating an ascending escalator.

Correction:

Placing her cane tip on the step above enables the traveler to feel when the steps level off and then to locate the metal plate.

Error:

The traveler slides one foot forward to verify the location of the edge of the metal plate that borders the steps.

Correction:

The traveler should use the TOUCH & SLIDE or TOUCH (Constant Contact) technique to locate the edge of the metal plate at the steps. Sliding a foot over the edge of the plate (and, thereby, contacting the moving steps) may cause the traveler to lose her balance.

Error:

The traveler holds her cane with the tip resting on the same step as her feet when negotiating a descending escalator.

Correction:

Holding her cane with the tip or shaft resting 1–2 steps ahead enables the traveler to feel when the steps level off and to detect the metal plate.

Error:

The traveler fails to raise the toes of her leading foot when she feels the steps level off.

Correction:

Raising the toes of her leading foot enables her to avoid stubbing her toes on the edge of the metal plate at the end of the escalator.

Error:

The traveler stops on the metal plate immediately after exiting the escalator to adjust the position of her cane or to switch it to her other hand.

Correction:

Taking 2–3 steps off the plate before stopping to reposition her cane allows room for people to exit the escalator behind the traveler. Some travelers may even choose to reposition their cane on the move after stepping off the metal plate.

Error:

The traveler fails to hold onto the handrail while boarding or exiting an escalator.

Correction:

Holding onto the handrail is always recommended. It provides support for balance when transitioning between the metal plates and the steps. It also provides support in case the escalator stops unexpectedly or another passenger bumps the traveler.

Error:

When negotiating a descending escalator, the traveler holds her cane with the tip hovering 1–2 inches above the steps below rather than resting the tip on them.

Correction:

Holding her cane with the tip or shaft resting on the steps below enables the traveler to feel when the steps level off and to detect the metal plate most efficiently.

Error:

The traveler fails to clear with her cane as she steps onto the metal plate when exiting the escalator.

Correction:

Clearing with her cane ensures that the traveler will not trip on an object that has been dropped at the exit of the escalator.

Notes for Teachers

Facts About Escalators:

Escalators are usually located in the center of buildings.

Escalators in malls are sometimes less congested than those in stores.

Escalators moving to and from the main floor of a building are often wider than escalators located between higher floors.

Sequential escalators (those traveling in the same direction) are often located side-by-side so that the traveler only needs to turn left or right upon exiting the first escalator to find the entrance to the next one (see Figure 4.06). In some locations sequential

escalators are located directly above (or below) each other (see Figure 4.07). In this case, the traveler must turn 180 degrees upon exiting the escalator and walk to a position directly underneath (or above) where she boarded the previous escalator.

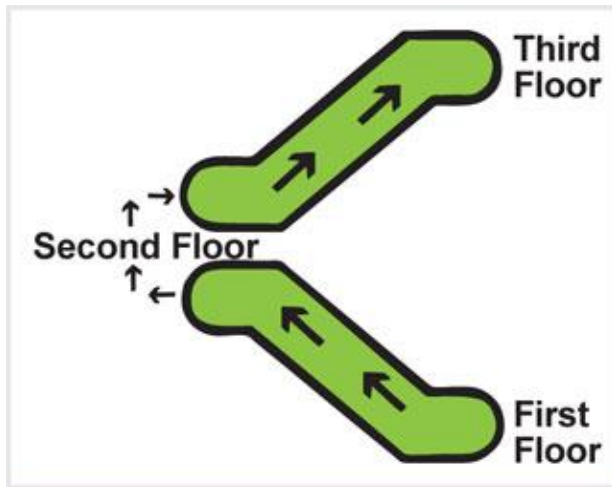


Figure 4.06

Sequential escalators (those traveling in the same direction) may be located side by side.

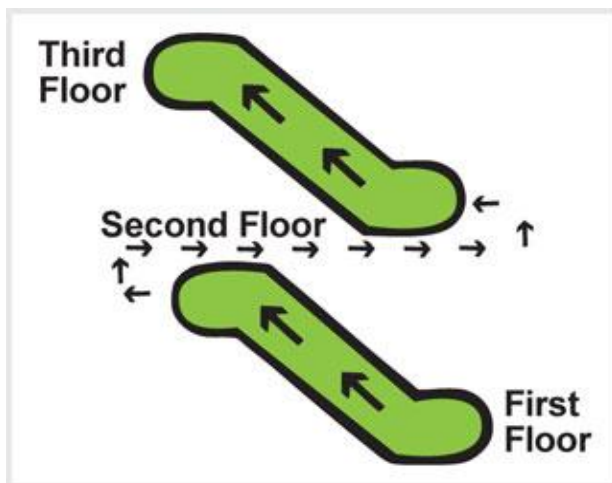


Figure 4.07

Sequential escalators (those traveling in the same direction) may be located directly above (or below) one other.

While escalators in public places generally operate in the same direction each day, the direction may change under certain conditions to accommodate traffic flow. For example, the direction of escalators at some busy mass transit stations may change during the rush hour to accommodate heavier crowds.

The sounds made by the motor of an escalator are often more easily discerned in underground subway stations than at ground-level stations. This is due to the added reflection of the sound off nearby walls and off typically lower ceiling heights. The general location of escalators often can be identified by the following:

Auditory Information

- People talking while on the escalator
- Heels striking the metal plate at the entrance or exit of the escalator
- The escalator motor and/or movement

Tactile Information

- Contact of the cane with the metal plate, moving handrail, or moving stairs
- Vibration of the floor caused by the movement of the escalator

A common rule is to stand on the right-hand side of an escalator, leaving room on the left for people to pass as they walk up or down the escalator in an effort to travel more quickly.

Using ascending escalators often produces less anxiety for travelers. For this reason, it is often helpful to teach travelers to negotiate ascending escalators before teaching them how to negotiate descending escalators.

Travelers who are apprehensive or fearful of escalator travel often voice concern about stepping on a seam rather than on a full step when boarding. It is important to emphasize that fear is unnecessary and that the traveler has the ability to adjust up or down if she steps on a seam between the steps.

While many people use an escalator when it is not moving, this practice is not recommended. The escalator can suddenly start up at any time with a sudden jerk that can make it difficult to maintain one's balance. This is equally true for people who are sighted or who are blind.

The procedure for negotiating moving walkways is the same as for escalators. Moving walkways usually are found in airports or large public areas such as convention centers.

Spotting Position of the Instructor

The instructor should always hold the railing. This is for his own safety as well as for the safety of the traveler. By holding the railing, the instructor will be more stable himself and better able to provide physical support to the traveler should the traveler suddenly lose her balance.

On an Ascending Escalator

The instructor stands below the traveler, facing in the same direction as the traveler (see Figure 4.08).



Figure 4.08

Spotting position on an ascending escalator: The instructor stands below the traveler, facing in the same direction.

On a Descending Escalator

The instructor stands below the traveler, riding backwards and facing the traveler (see Figure 4.09). It is often necessary to face the traveler to notice and respond most quickly to any loss of balance. This position may make it necessary for the instructor to board the escalator before the traveler, and to walk in place while waiting for the traveler to board.



Figure 4.09

Spotting position on a descending escalator: The instructor stands below the traveler, riding backwards and facing the traveler.

On a Wide Escalator

If the ascending or descending escalator is wide enough and balance and falling are not a concern, the instructor may stand next to the traveler (see Figure 4.10) or on the step below but turned only slightly toward the traveler.



Figure 4.10

On wide escalators the instructor may stand next to the traveler if balance or falling are not a concern.

Related Techniques

None

REVOLVING DOORS

Purpose

To negotiate revolving doors

Prerequisite Techniques

Congested Area (Diagonal)

Diagonal

Negotiating Doors¹

Upper Hand & Forearm

Teaching Environments

Begin in a quiet building entrance that is free from a lot of pedestrian traffic. If possible, choose a building with more than one revolving door to minimize contact with other pedestrians.

Initially use doors that are manually operated. This allows the instructor to control the speed at which the door revolves and to stop and start the motion of the door, as needed, during the course of instruction. Also, using doors that are wide enough to fit two people enables the guide and traveler to negotiate the door together during the early stages of learning.

Progress to doors that have sections that are only large enough to accommodate one person.

Later introduce the traveler to doors that revolve automatically.

Lead up to negotiating revolving doors at entrances where other people are using the revolving door at the same time. Pedestrians are usually more patient at hotels than at airports, banks, or department stores.

Practice this technique in a variety of environments during the course of instruction.

Skill

1. The traveler approaches the revolving door from the right-hand side by trailing the wall and shell to the opening of the doorway. He uses the CONGESTED AREA (Diagonal) technique with the cane in his right hand and simultaneously holds his left arm in the UPPER HAND & FOREARM position with his wrist bent slightly

¹ Knowing the NEGOTIATING DOORS technique may help the traveler learn to clear with his cane before exiting a revolving door.

backward; he trails the shell lightly with his fingertips to find the opening (see Figure 5.01).

- The traveler approaches the revolving door from the right-hand side because most revolving doors turn counter-clockwise; pedestrians enter from the right-hand side and exit from the left-hand side.
- If the door is moving, the traveler may also locate the edge of the shell by noting the sound of the rubber flaps along the door edges as they contact the shell.



Figure 5.01

The traveler approaches the revolving door from the right side, in contact with the shell.

2. Upon reaching the opening, the traveler listens to determine if the door is manually or automatically controlled.
 - If the door is **manually controlled**, the traveler listens for the door to stop moving. When he is ready to enter, he does not take one step forward but instead turns to the right and enters the compartment quickly; he holds his cane either vertically or semi-vertically.
 - If the panels of the revolving door are not in motion, the traveler slides his left hand down the door to locate the push bar and presses on it to move the door forward.
 - As a caution, a manually controlled door can start revolving at any time. It is important that the traveler be alert to this possibility.
 - If the door is **automatically controlled**, the traveler takes one more step and slowly moves his left arm to contact the rubber flaps of the revolving door with the relaxed fingertips of his left hand (see Figure 5.02). When the traveler determines that the time is correct to enter the compartment, the traveler turns to the right and enters the compartment quickly; he holds his cane either vertically or semi-vertically.

- Feeling the passing of the rubber flaps allows the traveler to detect an opening into which he can step. This contact also enables the traveler to determine the speed at which the door is moving and to time his entrance into the shell.
- It is important to enter the compartment quickly to avoid both pedestrian congestion and interference with the rhythm of an automatic door.
- If the door is already moving, the traveler should not press on the push bar unless the door stops mid-shell. This is because the door may be one that is powered automatically, and some automatic doors can lock in place if pressure is applied to the moving door. Automatic doors are often found in busy places, such as airports.



Figure 5.02

The traveler contacts the revolving door with the relaxed fingertips of his left hand.

3. The traveler identifies the exit of the revolving door using auditory, tactile, or other sensory clues. Some travelers choose to hold the top of the grip (or crook of the cane) in contact with the inside wall of the shell or to trail the shell with their right elbow to locate the opening.
4. When the traveler reaches the exit opening, he simultaneously clears with his cane and exits the compartment quickly, taking 2–3 steps away from the door toward the right, using the appropriate cane technique.
 - Due to the need to move away from the door quickly, there is generally not enough time to clear before stepping out of the revolving door. For this reason, the traveler clears and steps out of the door simultaneously.
 - Moving away from the door and to the right allows room for pedestrians behind him to exit the door.

General Modifications

When walking with a guide through a door that is not big enough to accommodate two people, the traveler should break contact with the guide. The guide will generally enter

the revolving door first and the traveler will enter the following section and negotiate the door independently.

Common Errors and Corrections

Error:

The traveler approaches the revolving door from the left side.

Correction:

Because revolving doors rotate in a counter-clockwise direction, approaching the revolving door from the right side prevents the traveler's cane from tripping people as they exit the doorway. The traveler's cane may not be readily visible to people exiting the doorway, but it can be seen more easily by people entering the doorway.

Error:

The traveler trails the wall to the door with his right arm.

Correction:

Trailing the wall with the fingers of his left hand (arm in UPPER HAND & FOREARM position) enables the traveler to locate the opening and to feel the rubber door edges without risk of catching his hand in the door.

Error:

The traveler uses the DIAGONAL TRAILING technique to approach the door.

Correction:

Using the DIAGONAL technique with the cane in the right hand when approaching the opening provides some forward coverage without risk of catching the cane tip in the moving door. It also leaves the left hand free to use the UPPER HAND & FOREARM technique to trail the shell to the opening.

Error:

The traveler holds the cane in his left hand and performs the UPPER HAND & FOREARM technique with his right hand.

Correction:

Holding the cane in his right hand and performing the UPPER HAND & FOREARM technique with his left hand positions the cane so that the tip cannot catch in the revolving door and positions the fingertips of his left hand to trail the wall to the opening.

Error:

The traveler fails to clear as he exits the revolving door.

Correction:

Clearing as he exits the revolving door enables the traveler to detect obstacles (e.g., dropped objects) in his immediate path.

Error:

The traveler stops immediately after exiting the revolving door and readjusts his cane from the CONGESTED AREA position to the fully extended position before walking away from the door.

Correction:

The traveler should step to the right side immediately after exiting the revolving door. This allows him to stop if he wishes (to readjust his cane, for orientation, etc.) and still allows pedestrian traffic passing through the revolving door to continue unimpeded.

Notes for Teachers

Revolving doors are most commonly found in severe weather areas. They prevent cold winter air or hot summer air from rushing into a building as people enter or exit.

Automatic, pneumatic, or spring-loaded doors may be located on either side of the revolving door. Some travelers may choose to use these instead of the revolving door.

The speed of some revolving doors is automatically regulated; other revolving doors have a button nearby on a wall that slows their speed when pressed.

When introducing a traveler to revolving doors, it is best to do so while the door is standing still. Describe its shape, motion, and features (such as the shell, individual sections, and push bar).

Using the BASIC GUIDING technique, slowly take the traveler through the door to show how it operates. As a special note, some travelers are unnecessarily afraid of catching their fingers between the rubber flap and the wall. Showing the traveler the rubber flap and the gap between the door and the cylinder can sometimes help to alleviate such fears.

Identifying the Presence of a Revolving Door

The traveler can use the following information to identify the presence of a revolving door:

Auditory Information

- Swishing sound created by the moving door
- Sounds of pedestrians entering and exiting

- “Pop” or “flapping” sound as the rubber flap on the edge of the door contacts the shell

Tactile Information

- Cane contact with the curved shell that protrudes from the wall
- Cane contact with the door itself
- Temperature changes near the door

Timing One’s Entrance into a Revolving Door

The traveler can use the following auditory and tactile information to time his entrance into the revolving door:

- The traveler can feel the passing of the rubber or canvas flaps on the door edges to identify the timing of when to step into a section.
- The rubber or canvas flaps may also provide auditory feedback to assist the traveler with timing his entrance into the doorway.

Related Techniques

None

SPECIAL ENVIRONMENTS

AREAS WITHOUT SIDEWALKS

Purpose

To travel in areas that have no sidewalks and/or curbs (e.g., rural areas, parks, some residential neighborhoods)

Prerequisite Techniques

Alignment
Basic Crossing
Obstacles in the Travel Path
Recovery from a Veer (Sidewalk Recovery and Street Crossing)
Sidewalk Recovery¹
Touch & Drag
Touch Trailing
Traversing Open Spaces
Unsignalized Intersections
Vehicle in the Travel Path

Teaching Environments

Begin by following a shoreline on a quiet, familiar, paved road that has straight, easily distinguished borders between the street and the property line (e.g., a curb).

Progress to following a shoreline on a quiet, familiar, paved road that has irregular borders and/or where the border between the street and the property line is less easily distinguished (e.g., dirt).

Progress next to following shorelines on less familiar roads and those that are not paved.

Introduce the traveler to street crossing techniques, first in areas where the corners are easily detectable (e.g., are relatively square or tightly rounded—see Figure 6.01a), and later in areas where they might be harder to detect (e.g., where they are gently rounded—see Figure 6.01b).

¹ The SIDEWALK RECOVERY skill is used when returning to the street following an inadvertent veer into a driveway or other pathway.

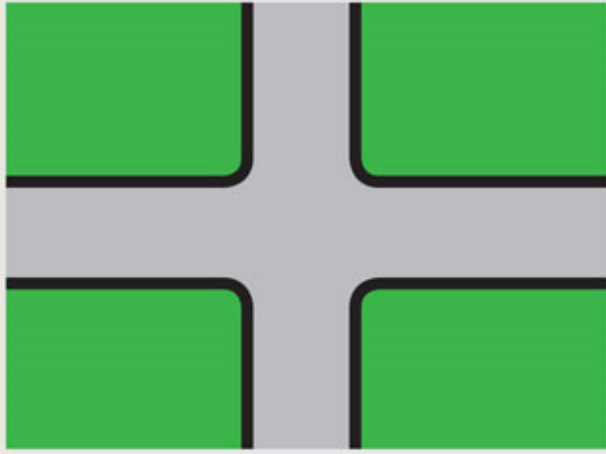


Figure 6.01a

Corners that are relatively square or tightly rounded are most easily detected.

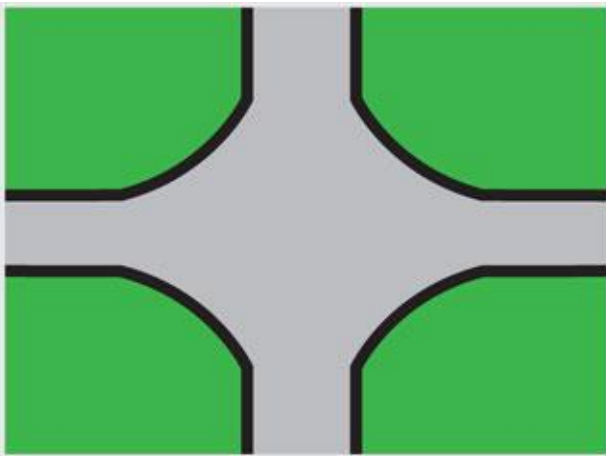


Figure 6.01b

Corners that are gently rounded may be more difficult for some travelers to detect.

Lead up to following the shoreline on roads with progressively greater amounts of traffic.

Skills

Following a Shoreline

This is the standard method used to walk safely in areas without sidewalks. It positions the traveler at a safe distance from traffic, facilitates identification of corners and intersecting paths, and assists in maintaining orientation, when necessary.

Walking on the road edge, the traveler follows the shoreline, using the TOUCH & DRAG or THREE-POINT technique. Some travelers may choose to use the TOUCH TRAILING technique, although if the shoreline is not elevated, the other techniques make it easier to follow the shoreline without inadvertently stepping on it. The traveler should stay

close to the shoreline and be prepared to step onto the property side of the shoreline should a vehicle on the street approach too closely.

- Walking on the property side of the shoreline may increase the traveler's safety because he will be farther from traffic; however, it may not be possible in all terrains (e.g., the presence of a ditch or bushes along the shoreline).
- If possible, the traveler should walk facing the near-lane oncoming traffic so drivers will see his cane more readily.

Moving Around Parked Vehicles

To move around parked vehicles, the traveler uses the VEHICLE IN THE TRAVEL PATH technique, ensuring there is a break in traffic before moving around the vehicle.

- If traffic is heavy and/or close, the traveler should walk around the vehicle on the shoreline side, if possible.

Crossing a Break in the Shoreline

A method to cross an opening (e.g., intersecting path or driveway) efficiently and safely when following a shoreline in areas without sidewalks

The traveler uses the TRAVERSING OPEN SPACES technique to cross a break in the shoreline, such as a driveway or intersecting walkway.

Crossing a Street

A method of safely positioning oneself to cross a street in the absence of distinct curbs and corners

Identifying Arrival at an Intersection

The traveler uses the following information to determine that he has arrived at an intersection:

Proprioceptive information

There may be changes in the camber of the street. The pavement is often highest in the middle of the street and slopes downward toward the curb in order to allow rain to drain toward gutters located near curbs.

The shoreline curves away from the parallel street, possibly around a corner. The traveler can detect this by noting that with each successive step, he needs to reach significantly farther with his cane to maintain contact with the shoreline. The distance he needs to reach with his cane will be greater than that typically experienced during a veer away from the shoreline.

Auditory information

Vehicular traffic

- Parallel traffic may slow or stop at the intersection.

- Perpendicular traffic will become increasingly closer as the traveler approaches the corner.
- If the corner is bordered by a building, passing the end of the building at the corner may cause a sudden increase in traffic volume and may enable the traveler to hear perpendicular traffic that is farther away.

Pedestrian Traffic and Other Ambient Sounds

If the corner is bordered by a building, passing the end of the building at the corner may cause a sudden increase in volume and distance of auditory information from pedestrian traffic and other ambient sounds.

Reflected sounds

If the corner is bordered by a building, passing the end of the building at the corner may cause a decrease in the amount of reflected sound coming from such things as passing vehicles, the traveler's cane tip, or even his footsteps.

Cutaneous (tactile or thermal) information

A change in sunlight and/or heat may indicate a break in a building line and may indicate that the traveler is approaching a corner.

A change in the force of the wind when passing a break in the building line may indicate that the traveler is approaching a corner.

A change in the traveler's relationship to the sun and/or wind may indicate that the traveler is following the shoreline around a turn or a corner.

Time-distance judgment

In a familiar area, the traveler may be able to anticipate when he has traveled far enough to reach the corner.

Crossing the Perpendicular Street

1. Upon identifying the corner, the traveler walks completely around the curved portion until he feels the shoreline of the perpendicular street proceed straight ahead.
 - The traveler should stop as soon as he feels that the shoreline is no longer curving away from him. Following the shoreline too far from the parallel street before crossing might place the traveler at a distance from the intersection where drivers might not expect to encounter or be prepared to brake for a pedestrian.
2. The traveler squares off with the shoreline of the perpendicular street and crosses the street using the appropriate procedures (see the Street Crossing Techniques module).

3. Upon reaching the opposite shoreline, the traveler turns toward the parallel street and follows the shoreline around the corner. He then continues to travel along the parallel street.

Modification

If the traveler chooses, he can begin his crossing at the point at which he feels the shoreline begin to curve away from him, rather than following it completely around the corner. He does this by maintaining his original line of travel, then projecting and following a straight line across the street. Doing so may make the crossing more efficient, but it also makes the crossing longer and makes it easier to veer toward the parallel street. This modification is used generally only by experienced and skillful travelers and is never recommended in unfamiliar areas.

Crossing the Parallel Street

1. Upon identifying the corner, the traveler reverses his direction and retraces his steps until he reaches the straight portion of the shoreline of the parallel street.
2. The traveler squares off with the shoreline and crosses the street, using the appropriate STREET CROSSING procedures.
3. Upon reaching the opposite shoreline, the traveler turns and resumes travel in his desired direction along the parallel street.

General Modifications

If it is necessary to cross a street where there are no corners for an extended distance in each direction, the traveler can use known landmarks along the shoreline to indicate a safe location for crossing. This, however, should be done only where and when the traveler is certain that it is safe to cross the street.

- In hilly areas, however, the traveler may not be readily visible to vehicles coming over the crest of a hill. Similarly, the sounds of approaching vehicles may be difficult to hear before the vehicles come over the crest of the hill. The traveler should use extra caution in such situations. Travelers should avoid crossing the street near or just below the crest of a hill.

Common Errors and Corrections

Error:

The traveler does not return to the shoreline after he fails to locate it with two cane contacts.

Correction:

Returning to the shoreline after failing to locate it with two cane contacts helps the traveler to avoid veering into the street.

Error:

When walking around the corner at an intersection, the traveler fails to continue until the shoreline straightens before he aligns to cross the street.

Correction:

Walking completely around the corner until the shoreline straightens before aligning to cross the street helps to prevent the traveler from veering into the parallel street.

Notes for Teachers

When walking in an area without sidewalks, the traveler is likely to encounter a variety of walking surfaces, such as dirt, grass, asphalt, gravel, and concrete. Furthermore, depending on weather conditions, he may encounter snow, mud, or leaves that can obscure the guideline. Similarly, puddles or mud can make parts of a route impassable without the proper footwear and clothing for such situations. This technique is useful when weather or other conditions make sidewalk travel impossible (e.g., the presence of heavy snow on the sidewalk).

Areas without sidewalks, definite curbs, and easily distinguishable shorelines can present challenges in tactually distinguishing between arrival at a driveway or a perpendicular street, especially in the absence of traffic.

When traveling in an area without sidewalks, it is especially important to project and follow a straight line of travel forward in order to avoid walking around a corner without realizing it.

Good orientation skills are very important when traveling in rural areas. Auditory or tactile landmarks and clues that assist in maintaining orientation can be few and far between. Maintaining one's orientation may involve paying very close attention to such things as time-distance estimates; sensory input, including that from the sun, wind, and nearby or distant sounds; and changes in the walking surface.

Generally, it is recommended that the traveler walk on the side of the road facing oncoming traffic, whenever feasible. This makes the traveler's long cane more visible to drivers and allows him to hear approaching near-lane vehicles more easily.

Related Techniques

None

GAS STATIONS

Purpose

To travel past a gas station without veering into it and to recover from an unintended entry into a gas station

Prerequisite Techniques

Alignment—With Parallel Traffic (for Monitoring Traffic method only)

Sidewalk Recovery

Touch & Drag (for Following the Expansion Joint and Following the Curb methods only)

Obstacle in the Travel Path¹

Traversing Open Spaces (For Recovery from a Veer method only)²

Teaching Environments

Begin at a quiet gas station during closed hours or when it is not likely to be busy.

Progress to negotiating gas stations when more traffic is present.

Opportunities to practice this technique often occur naturally in the course of traveling in business areas.

Skills

Passing the Station by Monitoring Traffic

This is one of the most efficient methods of avoiding an unintentional veer into a gas station. It does not rely on detecting the seam between the gas station surface and the sidewalk, which can sometimes be difficult to feel with the cane. This method also allows the traveler to maintain a greater distance from traffic on the street while walking past the gas station than is afforded by the "Passing the Station by Following the Curb" method.

1. The traveler maintains a straight line of travel past the gas station by keeping a parallel alignment to traffic on the parallel street.

¹ When recovering from an inadvertent veer into a gas station, the traveler can use the NEGOTIATING OBSTACLES IN THE TRAVEL PATH technique to walk around planter boxes or other objects located within the gas station property.

² When recovering from an inadvertent veer into a gas station, the traveler can use the TRAVERSING OPEN SPACES technique (Squaring-Off method) to cross the open area of the gas station and return to the public sidewalk.

- If the traveler encounters driveways, she maintains her line of travel by walking perpendicularly to their slope and not allowing herself to follow their slope down toward the street.

Passing the Station by Following the Expansion Joint

This is one of the simplest methods to avoid an unintentional veer into a gas station, especially when there are insufficient traffic sounds to assist in maintaining a line of travel. It works best when there is an easily discernable difference between the surface of the gas station asphalt and the surface of the sidewalk concrete. It also allows the traveler to walk past the gas station while maintaining a greater distance from traffic on the street.

1. The traveler maintains a straight line of travel past the gas station by using the TOUCH & DRAG technique to follow the seam that separates the concrete surface of the sidewalk from the asphalt surface of the gas station.
 - The traveler must be sensitive to tactile input from the cane in order to feel the expansion joint and/or to distinguish between the textures of the concrete and asphalt.

Passing the Station by Following the Curb

This is one of the surest methods to avoid an unintentional veer into a gas station when the seam between the sidewalk and the asphalt of the gas station cannot be detected easily with the cane. This method is also used easily when there are insufficient traffic sounds to assist in maintaining a line of travel auditorily.

1. The traveler maintains a straight line of travel past the gas station by using the TOUCH & DRAG technique to follow the curb of the parallel street.

Recovery from a Veer

When, despite the traveler's best efforts, she does veer into a gas station, this method provides a direct approach to return to the sidewalk quickly and efficiently. It is important to minimize the time a traveler spends on gas station property, where she can potentially encounter vehicles that are either moving or refueling.

1. Upon identifying a veer, the traveler turns to face the parallel street (and, hence, the parallel sidewalk).
 - If the traveler has contacted the gas pump or its island, she can square off to it on the side nearest the parallel street (See Figure 7.01).



Figure 7.01

The traveler squares off from a gas pump to establish a line of travel directly toward the parallel street.

2. The traveler walks directly toward the parallel street.
 - Moving toward the parallel street establishes a reference point to maintain or regain directional orientation.
 - It may be helpful for the traveler to use the TOUCH & SLIDE technique or the TOUCH (Constant Contact) technique as she approaches the street. These techniques are most useful in detecting the expansion joint between the asphalt surface of the gas station and the concrete surface of the sidewalk, detecting the slope of a driveway, and detecting the curb or the seam between the sidewalk and the street (if there is no curb—e.g., at a driveway).
 - If the traveler encounters a raised curb between the gas station and the sidewalk (e.g., a curbed landscaped area), she can trail around the curb, using the TOUCH TRAILING or TOUCH & DRAG technique and then move to the sidewalk.
3. Upon locating the sidewalk, the traveler realigns and resumes travel.
 - Some travelers may find that locating the curb or sidewalk edge of a parkway before realigning helps to verify that they are on the sidewalk.

Common Errors and Corrections

Error:

Upon identifying a veer into a gas station, the traveler turns around and attempts to retrace her path back to the sidewalk.

Correction:

The traveler should turn and walk toward the parallel street. Retracing one's path will not only cause the traveler to take longer to get out of the gas station; it also can make it more difficult for some travelers to maintain their orientation.

Error:

The traveler fails to use one of the proper methods to avoid veering when passing a known gas station.

Correction:

Using proper techniques to pass a gas station (i.e., following the curb, following the seam line, monitoring traffic) will help the traveler to walk past the gas station without veering into an area where she can potentially encounter either moving or stationary vehicles.

Notes for Teachers

For travelers who are unfamiliar with gas stations, initially introduce the traveler to the geographic features of a gas station by exploring one that is closed. Doing so can provide the opportunity to explore the features of a gas station without concern for traffic. Instruction that emphasizes the sensory features of gas stations can be done at a time when the gas station is open.

When in the vicinity of a gas station, it is especially important for the traveler to be aware of her proximity and positional relationship to traffic (both in the gas station and on the street).

In addition to teaching travelers the safety cautions associated with gas stations, it is important also to stress the positive aspects and many uses of gas stations to the traveler. They can be excellent sources for information and help.

Many aspects of the GAS STATIONS technique can be applied to passing a parking lot and to recovering from an unintended veer into one.

Identifying the presence of a gas station

Unique Geographic Features

Gas stations are usually located at or near intersections.

A pair of wide driveways, one at each end of the lot, are typically present. When the gas station is at a corner, a pair of driveways will generally lead to each street bordering the station.

Pumps are located on islands that may be situated between a building and the street. There may be more than one island of pumps at a gas station.

Islands are usually, but not always, parallel to the nearest street.

There may be a small store in a building in the back of the lot, a car wash at the back or side of the lot, and/or an attendant booth near one or more of the islands.

Unique Sensory Features

Auditory

- Sound of vehicles entering and exiting, starting, and idling in the station
- Sounds from the operation of gas pumps, pay booth, conversations, etc.
- Change in auditory information caused by a break in the building line
- Distance and relative position to nearby vehicular traffic
 - For example, are moving or idling vehicles present on the opposite side of the traveler from the parallel street? Are sounds from traffic on the parallel street coming from the traveler's side and not from behind her?)

Proprioceptive

Gradients of driveways crossing sidewalks

Tactile

- Cane contact with the expansion joint and/or the different textures of the asphalt pavement of the gas station and the concrete of the sidewalk
- Cane contact with islands, automobiles, a building, advertising signs, gas pumps, etc.
- Changes in the direction of a steady wind or in the position of the sun

Olfactory

Smell of auto exhaust, gasoline, and other petroleum products

Related Techniques

None

RAILROAD CROSSINGS

Purpose

To cross a set of railroad tracks (including light rail) safely

Prerequisite Techniques

Alignment (With Parallel Traffic)

Touch & Drag

Touch (Constant Contact)

Recovery from a Veer (Into the Parallel Street)

Teaching Environments

Begin at a set of railroad tracks during a quiet time when there is no, or minimal, traffic present on the parallel street. In this way, the traveler can be introduced to and explore the walking and shoreline surfaces on all sides of the track with a minimum of distraction from nearby traffic. She can be introduced to the warning mechanism that produces the flashing lights and audible warning sound and to the automatic gate arm (aka, "crossing arm," "boom bar," and "vehicle gate") mechanism. She also can take her time to explore and identify a landmark that indicates a safe waiting distance from the tracks if she needs to wait for a train to pass by before crossing.

Progress to crossing the railroad tracks when traffic is not present on the parallel street.

Progress next to crossing the railroad tracks when traffic is present on the parallel street. The traveler can practice maintaining alignment with parallel traffic while crossing the tracks.

Lead up to practicing during times when trains are present. Emphasize attention to auditory cues that indicate a train is approaching. This practice also can assist the traveler to develop confidence that she can independently locate the safe waiting position (at a predetermined landmark or a safe distance from the tracks) to use when a train is approaching or is passing by.

Skill

1. The traveler identifies that she is approaching a set of railroad tracks. She can do so by attending to the
 - Sound of a train or train warning whistle
 - Sound of the crossing warning bells
 - Change of surface texture (from concrete sidewalk to asphalt or other surface)

- Incline or decline of the walking surface
 - In an unfamiliar area, the traveler may not be able to identify that she is approaching railroad tracks, because there may be many reasons for an incline/decline or change in the walking surface.
 - 2. Upon identifying arrival near the train tracks, the traveler pauses and then projects a straight line of travel over the railroad tracks by aligning with traffic on the parallel street.
- Note:** If in a familiar area, the traveler should have pre-identified a landmark at which she should pause to ensure that she is neither close enough to the tracks to be in danger nor close enough to the crossing arm to be hit by it. If a landmark is not readily available, the traveler should stand at least 15 feet away from the tracks to ensure that she is not too close to the tracks or the gate arm.
- 3. After listening to ensure that a train is not approaching, the traveler uses the TOUCH (Constant Contact) technique to cross over all sets of tracks that may be present. The Constant Contact method enables the traveler to best detect the tracks and the trackway gap filler (if present) to assist her in maintaining orientation and monitoring her progress over the tracks.
 - If the traveler veers into the parallel street during the crossing, she can use the RECOVERY FROM A VEER (Into the Parallel Street) technique to return to the sidewalk.
 - 4. The traveler identifies that she has crossed all sets of tracks by the incline or decline of the walking surface on the other side of the tracks.

Modification

If the traveler is unable to align with parallel traffic or is extremely fearful of veering into the parallel street during the crossing, she may choose to trail the inside edge of the walking surface across the railroad tracks using the TOUCH & DRAG technique. This modification, however, is less efficient and can take the traveler off the original travel path; it is, therefore, not recommended unless absolutely necessary.

Common Errors and Corrections

Error:

The traveler fails to stop at a safe distance from the tracks while aligning or waiting for a train to pass.

Correction:

The traveler should stand at least 15 feet from the nearest track to ensure that she is a safe distance from an approaching train or the lowering gate arm.

Error

The traveler does not verify her alignment with parallel traffic before crossing the railroad tracks.

Correction:

Upon identifying arrival near the railroad tracks, the traveler should pause and verify her precise alignment with parallel traffic before crossing the tracks. This minimizes the potential that she will inadvertently veer into the parallel street as she crosses the tracks.

Error:

The traveler continues to walk across the tracks despite the audible sound of the train, train warning whistle, or gate arm bell.

Correction:

The traveler should never continue travel if any of these warning indicators are present. The chances of her crossing safely before the train arrives are not guaranteed. Trains cannot stop in time to avoid hitting someone who is on the tracks.

Notes for Teachers

Introduce the traveler to situations in which there may be more than one set of tracks present at a crossing.

After the train has passed, it is important to listen and ensure that another train is not approaching before proceeding forward. There may be instances when trains may pass by in close succession, especially when parallel tracks are present. The traveler may need to wait until the sound of the first train is no longer heard before proceeding forward in order to eliminate the possibility that the sound of the first train masks the sound of a second approaching train.

Using the direction of the tracks across the sidewalk to establish alignment is not always recommended. Not all tracks cross the walkway at a 90-degree angle. Furthermore, the time taken to verify a perpendicular alignment to the track extends the time during which the traveler is present in the track area.

Gate arms (Federal Railroad Administration, 2008), aka, vehicle gates or crossing gates, may or may not be present at all sets of tracks.

- In some locations, gate arms extend only over the street. The traveler should also be aware that in some locations, the counterweight of the vehicle gate may protrude into the sidewalk area.
- In some locations, gate arms extend over both the sidewalk and street. These gates are approximately 3 feet above the ground and not detectible by the long cane.

- In some locations there will be a pedestrian gate over the sidewalk that is at a different location and height than the vehicle gate.

Related Techniques

None

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